ALO--WWID-WIPP-2000-0001 Final Report

Occurrence Report

Waste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Area Office Westinghouse Waste Isolation Div.

(Laboratory, Site, or Organization)

Name: XXXXX
Title: ASSIST MGR **Telephone No.:** XXXXX

(Facility Manager/Designee)

Name: XXXXX
Title: ASSIST MGR **Telephone No.:** XXXXX

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: ALO--WWID-WIPP-2000-0001

Related Radioactive Material Entry Occurrences

2. Report Type and Date: Final

	Date	Time
Notification:	05/05/2000	10:35 (MTZ)
Initial Update:	05/19/2000	11:20 (MTZ)
Latest Update:	08/30/2000	12:20 (MTZ)
Final:	09/05/2000	05:28 (MTZ)

3. Occurrence Category: Off-Normal

4. Number of Occurrences: 1 **Original OR:**

5. Division or Project: WID/WIPP

6. Secretarial Office: EM - Environmental Management

7. System, Bldg., or Equipment: 411 - Waste Handling Building - Radioactive Materials Area

8. UCNI?: No

9. Plant Area: CH Bay

10. Date and Time Discovered: 05/03/2000 10:37 (MTZ)

11. Date and Time Categorized: 05/04/2000 10:40 (MTZ)

12. DOE Notification:

13. Other Notifications:

14. Subject or Title of Occurrence:

Related Radioactive Material Entry Occurrences

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15. Nature of Occurrence:

10) Cross-Category Items

A. Collectively Significant Related Occurrences

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16. Description of Occurrence:

On April 26, 2000, at approximately 0755 two individuals entered the posted Radioactive Materials Area (RMA) of the Waste Handling Building. One individual was wearing his Thermoluminescent dosimeter (TLD) and an Electronic Persnal Dosimeter (EPD), and was signed in to the appropriate Radiation Work Permit. In accordance with the requirements of the general RWP for non-radworker trained personnel, he did not have the additional TLD required for the individual he was escorting. At approximately 0815 the two individuals were observed by Waste Handling Operations and Radiological Controls personnel who were working on the East Dock. The individuals were directed to leave the RMA immediately. The Radiological Controls Manager notified the Central Monitoring Room of the incident at 1115. The Facility Manager Designee was notified and initiated an investigation of the event. A critique of the incident with all involved personnel has been conducted and statements from the individuals have been submitted. The incident was initially determined to be non reportable per the ORPS criteria based on the initial information, but upgrading to a reportable condition was not precluded should additional information from the continuing investigation of the event warrant it. A Corrective Action Request (CAR) was initiated to formalize the evaluation of the incident and to generate and track corrective actions that may result from the root cause analysis.

On May 3rd at 1037 notification was made to the CMR that a WID employee, whose Radiation Worker Annual Refresher Training had expired on Apirl 30, 2000, entered the RMA on May 1st and May 3rd. A review was conducted of the RMA entry log to verify the number and times the indiuvidual made entry into the RMA. The review confirmed that the individual entered the RMA on May 1st for approximately 30 minutes to observe waste processing and again on May 3rd for approximately 1 hour and 10 minutes

to observe training activities. He was instructed not to enter RMAs until the required training was completed and the individual's TLD was removed and returned to the Dosimetry Lab. The TLD will be retained until his training is completed. The Waste Handling Manager notified the Central Monitoring Room of the incident at 1037. The Facility Manager Designee was notified and initiated an investigation of the event. A critique of the incident with all involved personnel has been conducted and statements from the individuals have been submitted. The incident was initially determined to be non reportable per the ORPS criteria based on the initial information, but upgrading to a reportable condition was not precluded should additional information from the continuing investigation of the event warrant it. A CAR was initiated to formalize the evaluation of the incident and to generate and track corrective actions that may result from the root cause analysis.

On May 4th the FMD detrmined that the two events combined warranted an ORPS categorization. At 1040 on May 4, 2000 the events were categorized as Cross-Category Items;Potential Concerns/Issues;Off-Normal; Other events as determined by the FM/FMD.

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17. Operating Conditions of Facility at Time of Occurrence:

In Waste Handling Mode with waste processing in progress in the CH Bay

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18. Activity Category:

03 - Normal Operations

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19. Immediate Actions Taken and Results:

In response to the event on 4/26/2000 the personnel were immediately removed from the RMA. The TLD for the Escort was removed, read, and retained by the Dosimetry Lab. The personnel were directed to provide a statement to the FMD. A meeting was conducted with all involved individuals to collect the facts about the event. The Radiation Work Permits involved were reviewed and were found to be proper. A corrective action request was generated. Access into the RMA has been denied for the involved personnel.

In response to the event on 5/03/2000 the person was directed to not enter the RMA and his TLD was removed and retained by the Dosimetry Lab. The Responsible Manager notified the CMR and verified that all of his personnel were current on training. Technical training provided a list to Dosimetry of the personnel whose training had lapsed and their TLDs were removed from service. A meeting was conducted with all involved individuals to collect the facts about the event. A corrective action request was generated. Access into the RMA has been denied for the involved individual until the required training has been completed.

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20. Direct Cause:

3) Personnel Error

B. Procedure Not Used or Used Incorrectly

21. Contributing Cause(s):

5) Training Deficiency

A. No Training Provided

22. Root Cause:

6) Management Problem

A. Inadequate Administrative Control

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23. Description of Cause:

The causes of the events were derived from a Root Cause Analysis performed by a selected Root Cause Analysis Team (RCAT) in accordance with WIPP procedure.

In the first event, the root cause was failure to adequately control access/entry into Radiological Materials Areas; inadequate administrative control. The RCAT determined that there was failure to adequately provide controlled access/entry into Radiological Areas and ensure RCT personnel fully understood the processes and procedures in place for access/entry of radiation workers and visitors.

In the second event, the root cause was failure to provide an adequate process for removal of expired radiation worker's TLDs; inadequate administrative control. The RCAT determined that no formal method/process was in place for the removal or collecting of TLDs from radiation workers whose Radiological Worker Training had lapsed.

Recommended corrective actions were identified in the Root Cause Analysis and evaluated by the responsible management. The following are the corrective actions developed to adress the issues identified in the Root Cause Analysis:

1) The dosimeters of the involved workers were withdrawn, pending completion of remedial training. For the first event, this involved the two personnel attempting to enter the RMA. For the second event, this involved the worker whose qualification expired. This action is complete. All involved personnel have completed the required remedial training.

2) The individuals having oversight responsibilities were counseled concerning their actions and responsibilities. For the first event, this involved the RCT. For the second event, this involved the employee's manager. This action is complete.

3) The site training records were reviewed to identify all other site personnel whose radiological training had expired. This action is complete. The dosimeters of all such identified personnel were removed from the storage rack in the gatehouse and returned to the dosimetry department.

4) A letter was issued from the WID Radiation Safety and Emergency Management Manager to all WID radiological workers and their associated management. The letter re-emphasized responsibilities and requirements concerning radiological controls, and requested each manager to conduct a work place meeting with their workers to review this information prior to entry into an RMA. This action is complete.

5) The WID General Manager conducted an all-hands meeting on May 5th which included a review of proper conduct of operations and responsibilities concerning radiological controls. This action is complete.

6) The on-the-job refresher training provided to Subject Matter Experts has been modified to clarify that no qualification grace period exists. This action is complete.

7) The policy concerning dosimetry required to enter the RMA has been re-evaluated. WIPP reinstated the requirement for each individual to wear a separate dosimeter. This change provides consistency with other DOE sites and simplifies the entry process. The procedure that specifies the requirements for visitor dosimetry has been revised. During the revision process for the procedure, written direction was issued from the Radiation Safety and Emergency Management Manager to the Dosimetry team lead directing the interim implementation of this change.

8) A system has been developed and implemented to remove TLDs from service once the associated qualification has expired. The WID Dosimetry Department obtains written notification from WID Training concerning employees whose radiological qualifications will expire. Using this information, Dosimetry removes the associated TLDs from the rack in the gatehouse prior to the first work day of the new month. This action is complete.

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24. Evaluation (by Facility Manager/Designee):

The combined events warrant a categorization of off normal.

The categorization was changed to match the occurrence. The categorization was updated from Cross-Category Items Potential Concerns/Issues Off-Normal to Cross-Category Items Collectively Significant Related Occurrences Off-Normal.

06/26/00 - The Root Cause Analysis (RCA) is in its final stages of completion. The corrective actions related to the RCA are to be established by 7/31/00. The update from ORPS will follow the RCA corrective actions.

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25. Is Further Evaluation Required?: No

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26. Corrective Actions

(* = Date added/revised since final report was approved.)

1. The dosimeters of the involved workers were withdrawn, pending completion of remedial training. For the first event, this involved the two personnel attempting to enter the RMA. For the second event, this involved the worker whose qualification expired.

   Responsibility: WID Radiation Safety and Emergency Management Manager.

Target Completion Date: 05/04/2000	**Completion Date:** 05/04/2000

2. The individuals having oversight responsibilities were counseled concerning their actions and responsibilities. For the first event, this involved the RCT. For the second event, this involved the employee's manager.

   Responsibility: WID Radiation Safety and Emergency Management Manager and WID Operations Manager

Target Completion Date: 07/19/2000	**Completion Date:** 07/19/2000

3. The site training records were reviewed to identify all other site personnel whose radiological training had expired.

   Responsibility: WID Radiation Safety and Emergency Management Manager.

Target Completion Date: 05/04/2000	**Completion Date:** 05/04/2000

4. A letter was issued from the WID Radiation Safety and Emergency Management Manager to all WID radiological workers and their associated management. The letter re-emphasized responsibilities and requirements concerning radiological controls, and requested each manager to conduct a work place meeting with their workers to review this information prior to entry into an RMA.

   Responsibility: WID Radiation Safety and Emergency Management Manager.

***Target Completion Date:** 05/04/2000	**Completion Date:** 05/04/2000

5. The WID General Manager conducted an all-hands meeting on May 5th which included a review of proper conduct of operations and responsibilities concerning radiological controls.

   Responsibility: WID General Manager.

Target Completion Date: 05/04/2000	**Completion Date:** 05/04/2000

6. 6. The on-the-job refresher training provided to Subject Matter Experts has been modified to clarify that no qualification grace period exists.

   Responsibility: WID Technical Training Manager

Target Completion Date: 07/18/2000	**Completion Date:** 07/18/2000

7. The policy concerning dosimetry required to enter the RMA has been re-evaluated. WIPP reinstated the requirement for each individual to wear a separate dosimeter. The change was incorporated in the WID procedure. This change provides consistency with other DOE sites and simplifies the entry process.

   Responsibility: WID Radiation Safety and Emergency Management Manager.

Target Completion Date: 08/08/2000	**Completion Date:** 08/08/2000

8. A system was developed and implemented to remove TLDs from service once the associated qualification had expired. The WID Dosimetry Department obtains written notification from WID Training concerning employees whose radiological qualifications has expired. Using this information, Dosimetry removes the associated TLDs from the rack in the gatehouse prior to the first work day of the new month.

   Responsibility: WID Radiation Safety and Emergency Management Manager and WID Training Manager.

Target Completion Date: 05/05/2000	**Completion Date:** 05/05/2000

27. Impact on Environment, Safety and Health:

N/A

28. Programmatic Impact:

N/A

29. Impact on Codes and Standards:

N/A

30. Lessons Learned:

Management emphasis on procedural compliance and posting adherence is necessary to maintain a level of awareness for operations.

31. Similar Occurrence Report Numbers:

1. N/A

32. User-defined Field #1:

33. User-defined Field #2:

34. DOE Facility Representative Input:

FR concurs with the managing and operating contractor's (M&OC) immediate and corrective actions taken were reasonable and timely and should prove effective. Continual emphasis by the M&OC on procedural compliance, training requirements, and adherence to postings by all personnel is expected to preclude recurrence of similar type incidents.

Entered by: XXXXX Date: 09/05/2000

35. DOE Program Manager Input:

36. Approvals:

Approved by: XXXXX, Facility Manager/Designee
Date: 08/30/2000
Telephone No.: XXXXX

Approved by: XXXXX, Facility Representative/Designee
Date: 09/05/2000
Telephone No.: XXXXX

Approved by: Approval delegated to FR
Date: 09/05/2000
Telephone No.: **XXXXX**
